

Name: _____

Class: _____ Date: _____

Student Sheet 8

Sun-Earth-Moon System Review

Directions To prepare for the written assessment in Lesson 9, answer the following questions in complete sentences. Reading selections you should review include:

Lesson 1: Astronomy: Looking Back

Lesson 2: Scaling the Sun-Earth-Moon System

Lesson 4: The Reasons for Seasons

Lesson 6: Eclipses

Lesson 7: Our Sun's Energy

Lesson 8: Space Weather

Lesson 8: Auroras

1. Why do we experience day and night?
2. Define the terms "rotation" and "revolution" as they relate to space science.
3. Describe the Moon's period of rotation and revolution.
4. Describe the relative size and distance relationships among the Sun, Earth, and Moon.
5. Why can the Moon appear as large as the Sun even though we know the Moon is much smaller than the Sun?

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Student Sheet 8 (continued)

6. Why do shadows change during the day? You may draw a picture to show changes in shadow length relative to the Sun's position in the sky.

7. Explain why shadow lengths change throughout the year.

8. What causes seasons?

9. What factors (other than the one you listed in Question 8) affect how hot or cold it is in any one place on Earth?

10. Looking at the Moon from space, how much of the Moon always receives light from the Sun? Explain your answer.

11. Sketch and label the phases of the Moon.

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Student Sheet 8 (continued)

12. Draw a diagram of each eclipse listed below. Make certain to show the lighter and darker portions of the eclipse shadow. Label the Moon, Sun, and Earth, umbra and penumbra, and indicate whether it is a partial or total eclipse.

Solar eclipse:

Lunar eclipse:

13. Why do solar and lunar eclipses occur?

14. During which phase of the Moon does a solar eclipse occur? During which phase of the Moon does a lunar eclipse occur?

15. Why don't we have eclipses every month?

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Student Sheet 8 (continued)

16. What is the source of energy for the Earth?

17. How is Earth protected from receiving too much solar radiation?

18. What can you conclude from your observations of sunspots?

19. What is space weather? How does it affect Earth, including its space environment?

20. What are auroras and how do they form? (If you haven't done so already, read ahead to "Auroras" in Lesson 8 to answer this question.)